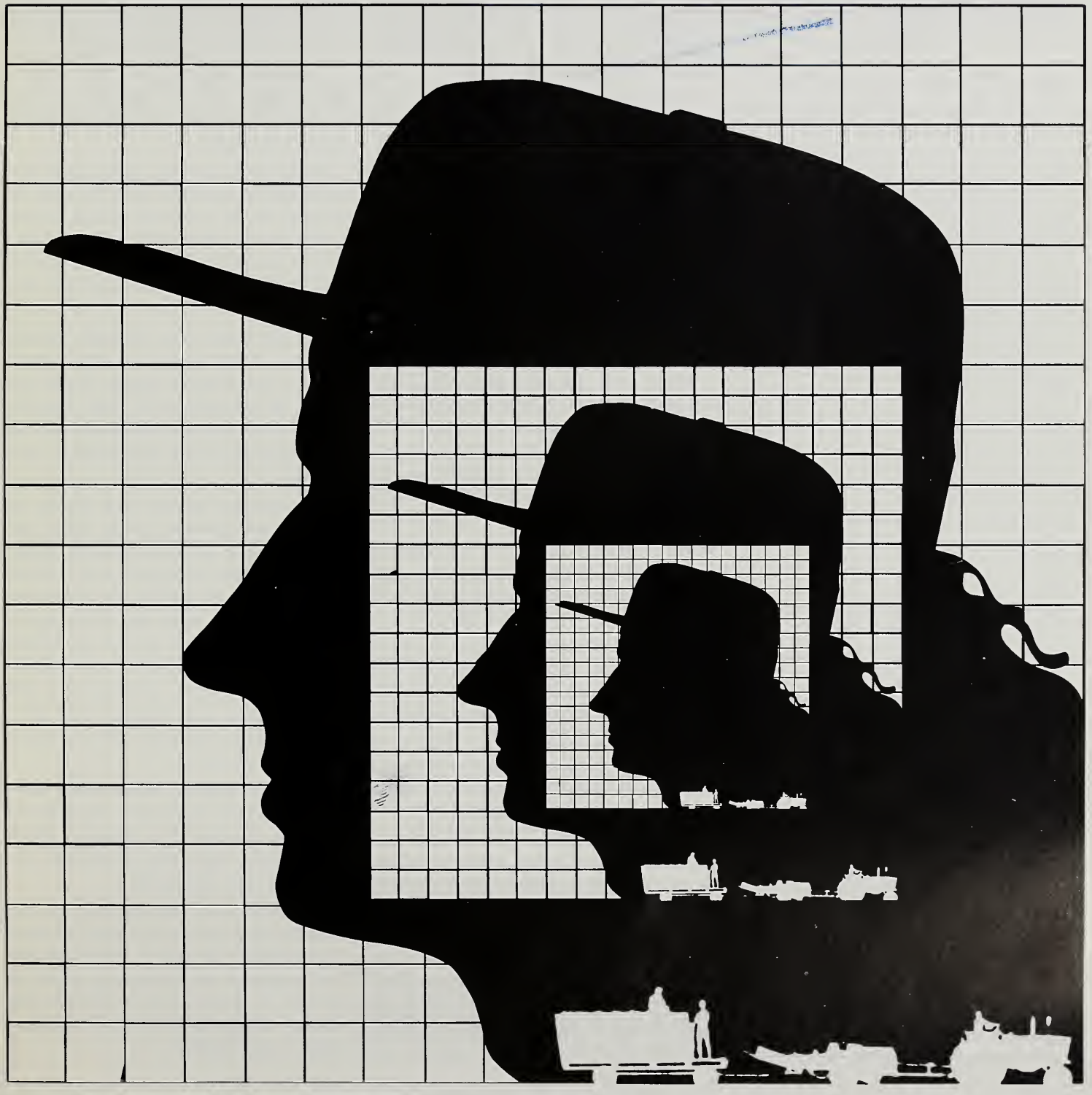
United States
Department of
Agriculture

Economics,
Statistics,
and Cooperatives
Service

March 1979

FARM INDEX

Small-Scale Farmers: A Unique Set of Problems?



Outlook

Economists are sticking with their forecast of a 6- to 10-percent increase in food prices this year, despite the fact that winter storms disrupted supplies and boosted prices of many foods—particularly meats and winter fruits and vegetables.

Experts see these hikes as only temporary—good news to consumers who have been wincing at the checkout counter in recent weeks. The current outlook is for increases to taper off as the year progresses—with some declines at the meat counter later in the year.

More pork on the way. The long awaited pickup in pork production seems to be underway at last. Encouraged by favorable returns, farmers' production plans suggest an increase of about a tenth in 1979.

However, the impact of this expansion won't really be noticeable until spring, when output likely will be 8 to 10 percent larger than last year.

Such a substantial surge in pork will probably dampen some of the planned expansion in broilers, since the two are in direct competition.

Economists now look for only an 8 to 10-percent increase in broiler production during the first half, with smaller gains in the second.

Beef production still dropping. Beef supplies will be getting smaller as the year proceeds—with production down 5 to 7 percent from year-earlier levels starting this spring.

More than enough pork and poultry will be on hand to fill the gap left by beef. But consumers will have to alter their menus to permit a different mix of meats.

How high meat prices? The big gains in pork and poultry output now in prospect imply prices may ease a bit this year, though not as much as they would have if beef supplies weren't so tight.

Retail pork prices right now are expected to stabilize later this year at roughly $1.50 a pound, which is just a bit more than the 1978 average. Retail poultry prices will decline about 10 percent throughout the year.

On the beef side, though, prices will be a lot higher—with retail prices for Choice grade beef up about 20 percent over 1978. The increase over year-earlier levels will be most pronounced this winter and spring.

Hamburger prices are likely to show even steeper price rises, although talk of $2-a-pound hamburger seems exaggerated. USDA forecasters put prices in a likelier range of $1.50 to $1.60. They figure that if hamburger prices go much beyond that, consumers will substitute other meats, processors will grind chucks and rounds, and producers and consumers will use more vegetable proteins.

Cattle downturn: When will it end? While cattle numbers registered another decline this January, there are definite signs that producers are trying to turn the cycle.

For example, about half of the heifers reported as intended for herd replacement on July 1, 1978 actually had entered the breeding herd by January 1, versus only a third of the heifers designated for herd replacement a year earlier.

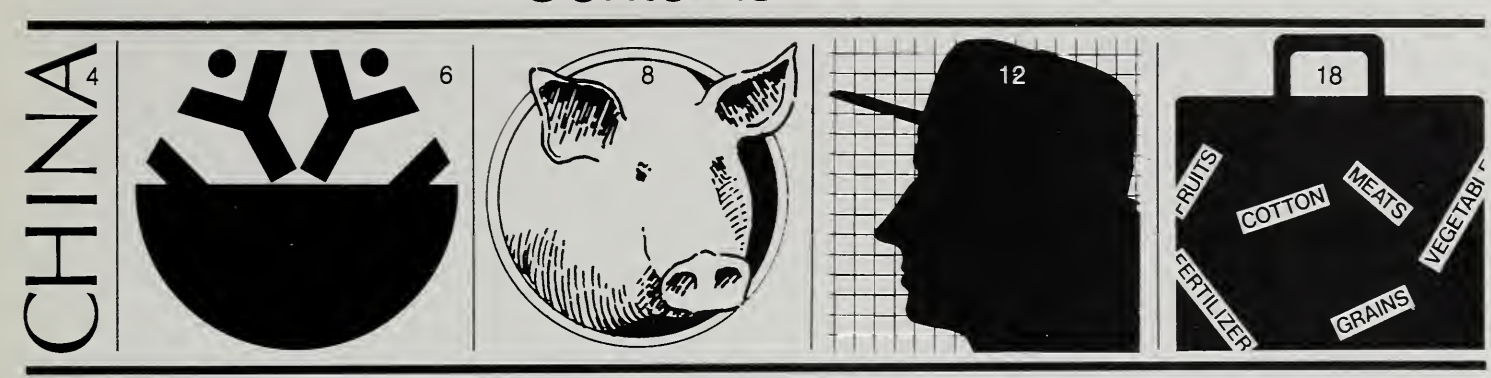
Outlook '80

Outlook '80, the 56th Annual Food and Agricultural Outlook Conference, sponsored by USDA, will be held November 5-8, 1979, in Washington, D.C. The conference was originally scheduled for November 13-15.

Tentative plans call for several new and expanded areas of outlook. Of special note is a comprehensive look at foreign trade prospects and an analysis of upcoming costs and supplies of major farm production items.

For more information on Outlook '80, contact Alan Bird at (202) 447-8848.

Contents



Features

Departments

Martha Newton, Editor
Jonathan Kirk, Art Director

Farm Index is published monthly by the Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. March 1979. Vol. XVIII. No. 2.

Readers are invited to write for the research materials on which we base our articles. Address queries to *Farm Index,* Rm. 482 GHI, 500 12th St., SW, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, Wash., D.C. 20250. Please cite article titles when ordering.

Eying the China Market

Amidst such front-page stories as the establishment of full diplomatic relations with the People's Republic of China (PRC) and Deng Xiaoping's (Teng Hsiao-p'ing) U.S. tour, the outlook for American agricultural trade with the PRC is promising. In fact, a record level of U.S. farm exports is likely this year.

These developments were taking place in the context of momentous changes within the PRC. Since the death of Mao Xedong (Mao Tse-tung), new stress on economic development has resulted in a wide-ranged revamping of economic policies.

As a part of this, China's foreign trade policies during the past 2 years have swung sharply in the direction of increased commerce, reflecting the country's acknowledged need to turn to Western technology to achieve its stated goal of "comprehensive modernization of the economy" by the year 2000.

The search for technology

In the search for technology, Chinese buying missions have been traveling widely, a large number of technical missions have been abroad or have been invited to China, and the PRC is now sending substantial numbers of students abroad for the first time in years.

All of these developments have created a new air of optimism about future trade with China, with the greatest growth expected in nonagricultural items.

Since the PRC's new leadership has stated that agriculture must be improved dramatically if the country's overall economic goals are to be realized, it is not surprising that many of the new economic policies involve agriculture extensively.

New policies

New consumption, production, and trade policies will help shape the size of U.S. farm exports to that Asian market.

Consumption. An important feature of China's new policies is an emphasis on increased standards of living and material incentives. Wages have gone up and rural households have been promised increases in income.

These higher incomes are bound to spill over into increased demand for items such as grains, livestock products, and edible oils.

The income increases are not massive on a per capita basis. But because of China's huge population, even small increases translate into a healthy growth in demand for agricultural products.

Moreover, the rise of rural incomes may encourage the Chinese to keep more of the production for on-farm use. This would make fewer farm products available for state procurements to support consumers in the urban sector. The result might be an increase in imports.

Production. China's 10-year plan ending in 1985 calls for the rate of growth in farm production to be double that of past levels.

For grains, a target of 400 million tons has been set—60 percent above present levels. Although the Chinese have not released precise targets, livestock numbers, with hogs and poultry leading the way, are expected to grow substantially. This implies an expansion of feed requirements and less emphasis on traditional feeds, such as plant residues and other nongrain products.

Because it's not easy for China to develop new cultivated areas, most of the expansion plans are geared to increasing per-acre yields. This will be accomplished through mechanization, increased irrigation and land improvement, more multiple cropping, higher levels of fertilizer application, better research, and the rapid spread of the

new seed strains. Imports of agricultural technology will play an important role in these areas.

The plans to increase farm output are not only highly ambitious, but they show that the state has targeted a greater level of support for agriculture than in the past. More money is to be invested in chemical fertilizers and agricultural machinery; new attention will be focused on agricultural education and research.

Trade. The Chinese are placing much more emphasis on the positive role that trade can play in economic development. Further, they are taking a more liberal view of credit and have been exploring a variety of new ways to finance their industrial imports.

When agricultural trade is mentioned by the PRC, it is generally in the context of increased exports of agricultural products. The new plans will require large increases in exports if the growth of imports is to be sustained. In this context, the Chinese appear intent on rebuilding their exports of soybeans to Japan—their major export market. This is one reason for the planned expansion of soybean production.

Where does this leave agricultural trade, particularly imports of grains and soybeans, over the next few years? No precise answers are available. The Chinese would be concerned about further large increases in grain imports, both because of increased dependence on foreign supplies and, more importantly, because of the threat this would pose to plans for industrial imports.

At the same time, however, increased demand pressure seems inevitable and is something that the Chinese government cannot turn on and off at will.

The growth rate of agricultural production seems to be the critical variable. Unless production growth accelerates, China may not be able to hold imports down. Some acceleration is likely, but whether it will be sufficient remains to be seen. Certainly, the 1985 goal of 400 million tons of grain appears unattainable.

Import impact

The best guess about the probable net impact of all this on China's imports of major agricultural products is that for the next several years grain imports will be higher than average.

During this period, the PRC should begin importing limited amounts of grain for feeding in urban livestock operations. A figure of about 10 million tons of grain imports annually, including 5 to 6 million tons of U.S. wheat and corn, has been given by Chinese leaders to several visiting U.S. delegations as likely over the next several years.

The picture after the next several years becomes less certain. New production policies should take hold, giving a boost to both production and the size of rural marketings, although most likely not to the extent the Chinese planners are hoping for.

Long-run prospects

Moreover, as the 1980's progress, the Chinese are likely to be facing mounting debt repayment pressures and a crunch in import financing. Both matters lend some caution to long-run prospects for trade.

As for soybeans, it appears doubtful that the PRC would have a large and sustained import program. Rather, they are likely to attempt to increase exports moderately to recapture at least part of their traditional markets and import only when they have poor harvests. This can still mean significant imports in some years, however.

Finally, rising fiber demand for textiles is likely to keep cotton imports substantial. The PRC purchased 1.8 million bales in 1977/78, with 431,000 bales coming from the U.S. It appears the U.S. share will also be substantial for 1978/79, during which imports from all countries are expected to be 2.1 million bales.

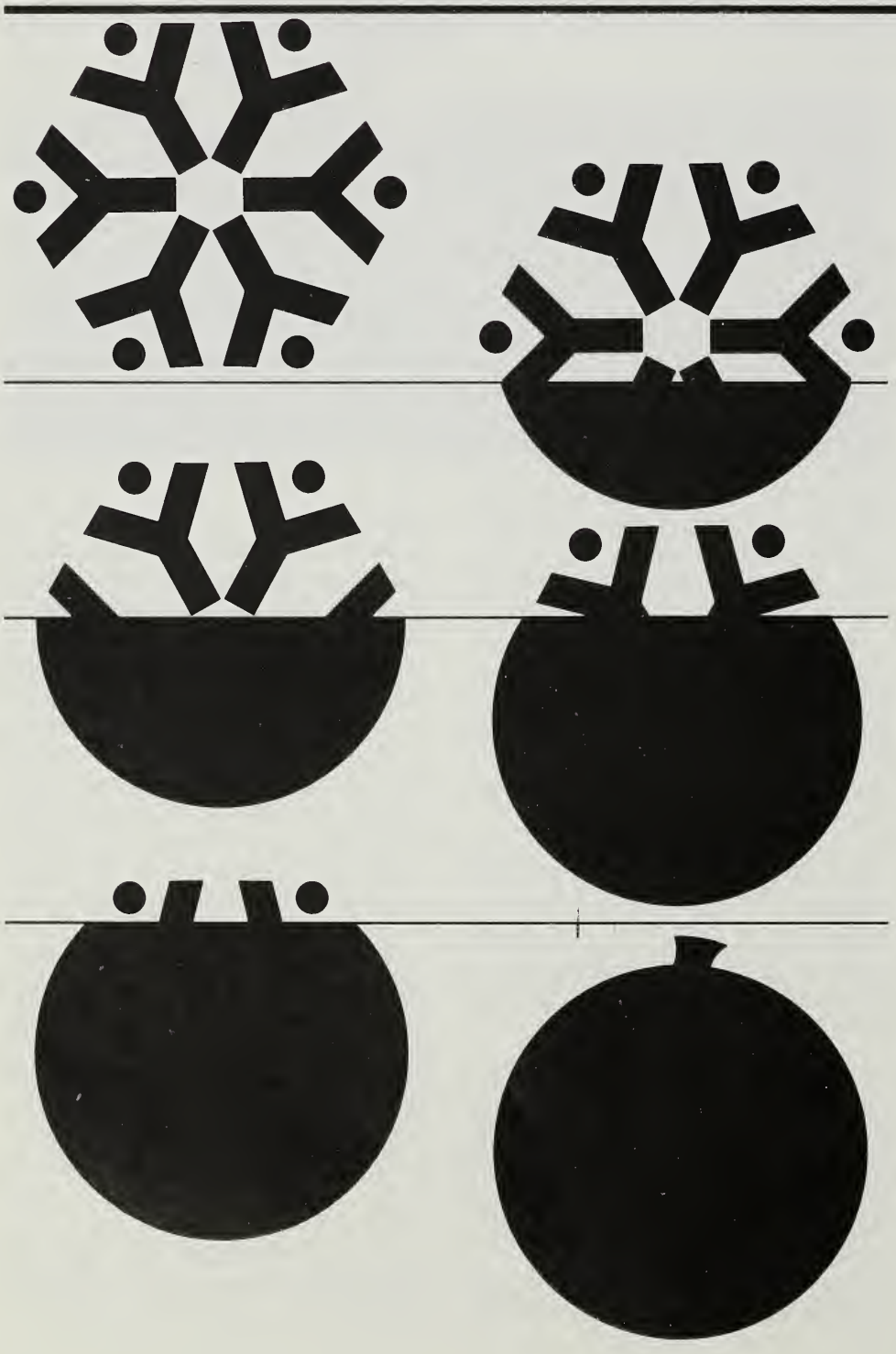
U.S. prospects

With the prospect of a higher average of agricultural import levels over the next several years, and with increased familiarity with U.S. products and marketing practices, it seems likely that we will be a more regular supplier of agricultural items to China in years to come. The size of our exports will depend mainly on China's success or failure in meeting its production and export goals.

However, while all of this seems encouraging, a note of caution is required. We must look beyond the sheer size of China's nearly 1-billion population to the fact that the country is and will remain a poor nation with limited buying power. And much will depend upon future economic policies and China's success in meeting ambitious economic goals.

[Based on the speech, "The China Market for U.S. Agriculture," by Frederic M. Surls, Foreign Demand and Competition Division, presented at the annual meeting of the Delaware-Maryland Plant Food Association, Nov. 1, 1978, Dover, Del.]

Citrus vs. the Freeze



This year's citrus outlook points to a situation of delight and dismay.

The delightful news for producers is that the demand for processed citrus is on the rise. But to consumers' dismay, the 1978/79 production—previously estimated at about 13 million tons—will be less than last year's crop. Production for all citrus crops is forecast to be off slightly, except for tangerines, which are likely to remain stable.

But the news could be worse, depending on the extent of the damage of the December cold snap in California and the January frost in Texas (see accompanying story). A freeze can be so severe the tree is damaged, but usually it's the fruit that's frozen.

Whither frozen fruit?

If the weather turns warm after a freeze the frozen fruit breaks down and begins to decay. However, if the weather remains cool, the fruit gradually defrosts and can be used for processing into juice.

The 1976/77 citrus crop, for example, fell below expected levels due to the January 1977 freeze. Processors recovered only 1.07 gallons of juice per box from the freeze-damaged crop, compared with the usual 1.29-1.32 gallons.

The 1978/79 citrus season points to an orange crop of 205 million boxes, which is only 7 percent less than last year, but 15 percent below the 1976/77 output.

Some up, some down

If current prospects are realized, Florida will produce four-fifths of the U.S. orange crop, while California producers, due to fewer Valencias, expect the smallest crop in recent years. The

Texas and Arizona crops will be smaller. These overall smaller crop prospects will keep orange prices high throughout the 1978/79 season.

Foreign demand for citrus was down in 1977/78, but Japan has agreed to increase orange imports approximately threefold. Grapefruit exports are also expected to be up considerably in 1978/79.

With dollar valuation low against foreign currencies, U.S. citrus will be a bargain abroad. However, aggressive marketing by Brazil will keep U.S. exports at moderate levels.

Half the world's oranges

Brazil is the world's largest exporter of frozen concentrated orange juice, although we are the largest producer. Brazil's total orange production for 1978 was 171 million boxes, with nearly 67 million producing trees and another 21 million trees not yet bearing. Together, the U.S. and Brazil produce half the world's oranges.

Japan, the world's leading tangerine producer, is expected to level off output after the highly expansionary planting period of 1963-74. Low prices and limited market alternatives forced the Japanese to implement subsidized acreage diversion and government crop-thinning programs. They have also diverted increasing amounts of the Mikan variety for processing.

Grapefruit's share

The U.S. has always had a dominant share of the world's grapefruit production; however, its portion is declining and is expected to be about 56 percent by 1980. Cuba, Argentina, and South Africa are growing more and more of this citrus.

Of all citrus, grapefruit may be the one that faces the most severe economic pressures in the future. Consumption will need to increase over 6 percent per year to keep up with production.

World lemon and lime production is the least concentrated among countries and is not expected to change greatly, even though production is expected to increase nearly 18 percent between 1976 and 1980.

Expanding citrus

With world production of citrus expanding at such a rapid rate, the development of new markets becomes of paramount importance.

Market expansion has problems because the basic fruit cannot be stored. Most citrus groves are in a concentrated geographic area located long distances from major potential consuming regions. And above all, production and quality vary due to the uncertain weather conditions.

[Based on the speech, "Outlook for Fruit and Tree Nuts," by Jules V. Powell, Commodity Economics Division, presented at the National Food and Agricultural Outlook Conference, Nov. 15, 1978; special material from the author; *Fruit Situation*, November 1978, TFS-209; and *Crop Production*, January 11, 1979, CrPr2-2.]

Freeze Update

Freezing weather struck early this season, dropping the total U.S. citrus estimate from 14 million tons to slightly more than 13 million (latest figures available at press time).

Lemons and navel oranges got the worst of the December California freeze, which was probably the worst since 1949. Prospects for lemons dropped 15 percent by January, more than 16 percent less than last season.

In the southern California area, much of the smaller fruit was lost, with some damage to mature fruit. Fruit from the central growing area was small, but looked unharmed.

Lemons that survived the freeze in the desert areas were picked; size and grade were reported good.

As for oranges, the 1978/79 U.S. production dropped 6 percent because of the various freezes. In California alone, the forecast fell 13 percent from the December 1 estimate. Much of the Navel crop was lost, with only 18 million boxes expected, down 14 percent in just one month.

In Texas, orange production was down 9 percent as a result of the December freeze, but official losses from the January frost were not in at this writing.

Tangerine production in Arizona remained unchanged, but the California crop was down 18 percent. Florida tangerines, already expected to be more than last year, stayed the same.

The freezes pushed a substantial amount of citrus into processing for juice.

Although there was some significant frost damage to the fruit, damage to the trees was believed to be minimal.

Pork A'Plenty

Disease and old man winter helped foil hog expansion last year. And although producers planned substantial increases for this year, cold weather may again chill their chances.

Nevertheless, it appears that more pork will hit the markets and help fill the red meat void created by low beef supplies.

Farmers had 10 percent more sows farrow during September-November 1978 than in the same period the previous year. And USDA surveys of 14 major hog States showed that pork producers planned to have 12 percent more sows farrow this winter and 16 percent more this spring than a year earlier. (Cold weather may prevent producers from realizing their intentions.)

Weather permitting

If all goes well, there could be 12-14 percent more pork on the market in the second half of this year. As a result, consumer prices for pork—expected to stay the same as 1978 prices during the first half of 1979—will decline about 4 to 5 percent from that level by the end of the year.

To some extent, pork producers have expanded their sow farrowing in response to the favorable hog-feed price relationships that prevailed for most of 1978. But other factors, such as the shifting industry structure, have played a role in the expansion.

Fifteen years ago, only 7 percent of the output came from operations raising 1,000 or more hogs per year. This year, large confinement facilities could account for 40 percent of the total.

Small operations

And the number of small operations has decreased accordingly. In 1964, those selling 200 head or less accounted for 46 percent of sales. Today, their market share has decreased to about 18 percent.

Nevertheless, considerable production still comes from relatively small operations. The midpoint of all 1977 sales was from farms with facilities for 500-999 head. But the average size enterprise still has sales in the range of 200-300 head per year.

The changing size of operations has also begun to change the cost structure of the hog industry. Hog production in larger facilities is much more capital intensive. As a result, the hog production cycle—about 4 years long—may be changing.

The way it was

Twenty-five years ago, farmers made rapid adjustments in their farrowings and slaughter in response to changing market prices for inputs and finished products.

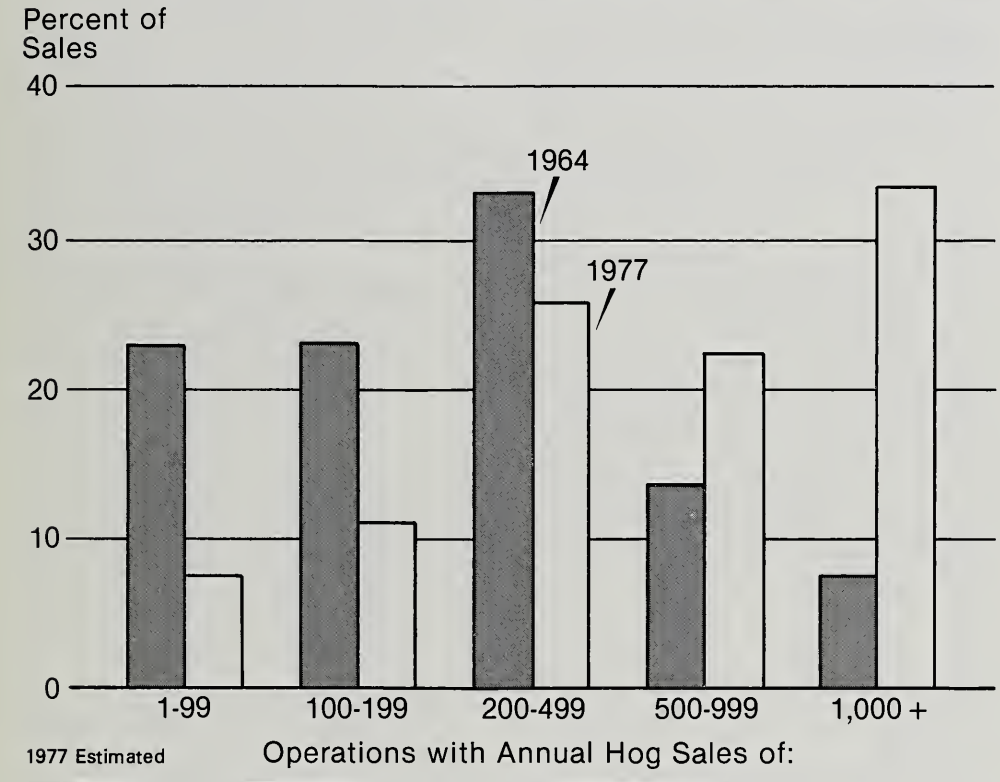
Now, however, since much of their costs are longer run investments in facilities and equipment, such important expenses as feed play a more limited role. Feed costs now comprise only about half of the total production costs—down from about 70 percent in the past.

Thus, with feed costs comparatively less important, the time-honored hog-corn price ratio is no longer the absolute bellwether of production shifts.

20-1 or none

Now, it takes a corn-hog ratio of more than 20-1 to entice producers to expand (a 20-1 ratio means that 20 bushels of corn have the same market value as 100 pounds of market hog.)

Percent of Hog Sales by Size of Operation



Not long ago, a 16-1 or 18-1 ratio was thought to indicate profitable conditions. Today, that would only cover cash costs.

It takes about a $100-$110-per hog investment to build a large confinement facility. A unit designed to produce 5,000 hogs per year would cost more than half a million dollars and it would probably have 4 groups of 90 sows farrowing twice a year.

To arrange financing and undertake that size of operation, a producer must expect to receive prices that cover both variable and investment costs over the long term.

Reasons why

More profitable alternative uses for land, easier feed handling, the desire for year-round production, and better control of disease, parasites, hog wastes, and each phase of production have influenced the change to larger units.

Actually, hogs can adapt to many different conditions. Some are still produced on woodland pasture with little or no shelter, while others are raised in portable housing on pasture. Many are handled in drylot situations, though, consisting of some type of shelter building with a paved feeding floor.

But it's the size of the operation that dictates what kind of technology will be used.

Sizable technology

Producers with the largest operations adopt the most modern technologies and operate very close to their full capacity to reap the benefits that scale economies permit.

These benefits are reduced farrow-to-finish costs—about $42 per cwt for 5,000-unit operations, compared with $60 per cwt for operations with sales of only 40 head.

Most of this saving is in noncash items, reflecting efficient use of facilities and labor. Cash outlays do not markedly change between the various enterprise sizes.

The long-run advantage of large-scale operations is a primary consideration as producers replace worn-out facilities or new producers enter the industry.

Spare time

Hogs and grain traditionally have been linked in many parts of the country, but the association may be dissolving.

Historically, farmers had time to tend their hogs after the crops were planted in summer and after harvest in the fall and winter. Frequently, profits from the operation were invested in more land. Many farmers now simply do not have the extra time to raise hogs and run the added acreage.

Every USDA report since 1965 has indicated that the number of farms raising hogs has declined. In 1950, more than a third of the 5.4 million U.S. farms had hogs and pigs as part of their operation, but by 1977, only a

fourth of the 2.8 million farms reported hog sales.

Age, jobs, and repairs

Other factors leading to the decline have been:

- As the farmer gets older, hogs are dropped as he chooses to slow down.
- Off-farm employment becomes a viable alternative during noncropping seasons.
- Producers faced with major repairs or the need for new expensive facilities may choose to drop the operation instead.

For those producers still in the market and considering expansion, there are some uncertainties ahead.

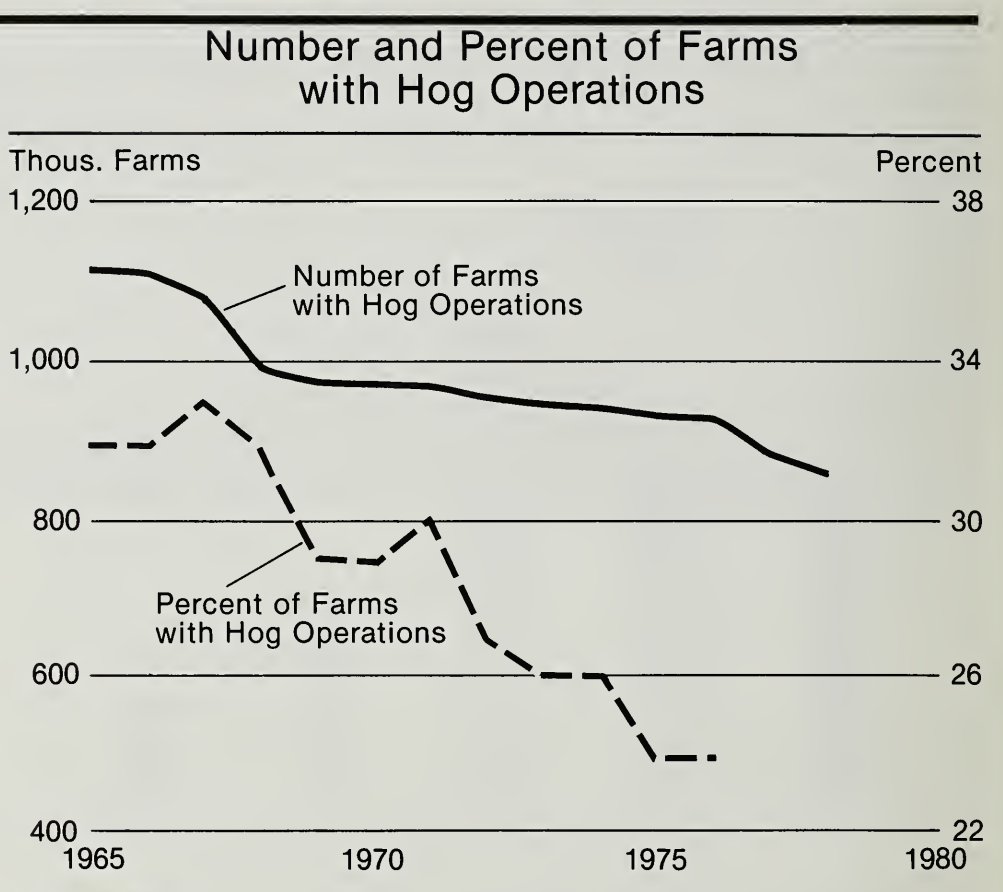
Pollution regulations, particulary in the important hog-producing North Central region, where expanding urban areas have intensified these problems, have been a factor in reducing or eliminating hog farms.

Antibiotics and nitrite

Some antibiotics, which are especially important to large confinement units to prevent high losses from death and disease, may be banned because of possible side effects to humans. This could impose serious short-run problems until substitutes are developed.

Nitrite, a curing agent for pork, could also be banned for health reasons. Consumers are familiar with the taste of cured pork products, and any radical change in the taste could hurt demand. A gradual phasing out of nitrite should minimize the impact.

Grain policies will also affect producers' decisions to expand. Memories of the very high grain prices of the mid-1970's, and the subsequent losses the hog industry suffered, make producers wary about increasing their operations.



1978 Preliminary

Attractive alternative

Also, for those producers who grow grain and raise hogs, the new farm program represents a fairly attractive guaranteed price level for grain. As a result, producers may lack the incentive to take additional risks and increase their hog numbers.

Today's more stable grain prices reduce the attractiveness of a diversified hog-grain operation as a hedge against fluctuations in farm income.

But expansion is expected to continue, although not at the rapid pace of the early 1970's. Once the expansion decision is made and the capital is sunk, these producers will be less inclined to let their production levels fluctuate, even if hog prices fall.

What this means is that hog production in the future may not follow the very distinct cycles it has in the past. However, while supply may not vary as greatly, producers may be faced with more widely fluctuating prices.

[Based on *Livestock and Meat Situation,* January 1979.]

The Return of Tallow

Tallow—essentially melted down animal fat—has been used for centuries in a wide variety of products, ranging from shortening, candles, and soap to animal feeds, fatty acids, and lubricants.

The world market for fats and oils is highly competitive, since most of these commodities are, to some extent, interchangeable. As a result, U.S. tallow faces stiff competition—mainly from palm and soybean oil.

World output of palm oil has tripled since 1965, with most of the gain occurring in Malaysia. Malaysia now accounts for over one-half of the world's output.

Soybeans are now the world's most important source of vegetable oil and high-protein meal. And soybean production has been trending up, more than doubling since 1965. This sharp uptrend primarily came from the U.S.—the world's No. 1 producer.

Tallow's place

Tallow is the world's second most important source of fats and oils, and its production has shot up, too—doubling since 1961. With world consumption of livestock products continuing to expand, more growth is expected. Again, the U.S. is the major source, producing more than half of the world's output.

Tallow is usually the lowest priced fat or oil in the world, often averaging $125 per ton below soybean oil. But tallow prices currently are very firm, reflecting reduced U.S. supplies—primarily the result of the downturn in cattle slaughter.

The path of the cattle cycle over the next few years will have an important bearing on the volume of raw materials available to the rendering industry for the production of tallow.

The number of cattle on U.S. farms increased sharply in the early 1970's, resulting in record-high numbers on January 1, 1975. But on the heels of this rise was an increase in beef production and lower cattle prices.

Financial losses

Rising production costs and lower cattle prices spelled heavy financial losses to beef producers. Therefore, many cattlemen were forced to sell off a lot of their inventory (including breeding stock), leading to even larger production—and, of course, even lower beef prices.

But the increased production eventually produced results. At the beginning of 1978, the cattle inventory began to decline. Even though cattle prices rose sharply early in the year, cow slaughter remained relatively high, and thus, the size of the herd continues to decline.

The huge liquidation of 16 million head during the past 3 years, and another 4 or 5 million in 1978, will reverberate through the entire meat economy for many years. Just when the decline in the cattle inventory will end and rebuilding will begin is difficult to predict. But rebuilding will mean decreased beef production.

And since tallow is produced primarily from rendering beef fats, any growth in tallow production hinges on an increase in cattle slaughter and beef output and consumption.

Expanding domestic markets

Marketing tallow has been one of the U.S. rendering industry's greatest challenges for many years. This situation has resulted from the sharp increase in production coupled with a substantial loss in the traditional soap market—despite the increasing use of tallow in animal feeds and fatty acids.

The total U.S. tallow market has approximately doubled since 1958, and during that time there have been some important shifts in marketing patterns.

The biggest shift has been in exports. In 1958, exports accounted for 35 percent of total tallow disappearance; in 1978, they are expected to reach 42 percent.

Today, use in animal feeds (including pet foods) is the most important single outlet here at home.

A return to tallow

Soapmaking, once the most important domestic outlet for fats and oils, dropped after World War II as synthetic detergents captured a large part of the market. But since most of these detergents are made from petroleum sources, higher petroleum costs are reversing the long-term downtrend of using fats and oils in soap.

Tallow and coconut oil are now practically the only important fats and oils used in making soap (mainly toilet bar soap). Tallow should gradually regain some of its lost ground, since natural fats and oils cost less than petroleum derivatives. Furthermore, tallow has an edge in that the U.S. is a surplus producer of natural fats and oils, so there is no need to rely on imports, as in the case of petroleum.

[Based on the speech, "World Fats and Oils Situation and U.S. Tallow Prospects," presented by George W. Kromer, Commodity Economics Division, at the National Renderers Association Annual Meeting, Houston, Tex., Oct. 31, 1978.]

Small-Scale Farmers: A Unique Set of Problems?

EDITOR'S NOTE: This is the first in a series of articles on small-scale farmers.

After years of general farm enlargement the American small farm is still the most common agricultural enterprise. Do small-scale operators have problems unique to their situation? If so, what are they and what can be done about them?

Small-scale farmers from all over the country gathered last summer and early fall to find out. The occasion? Five Regional Small Farms Conferences sponsored by USDA, the Community Services Administration (CSA), and ACTION.

Farmer-delegates attended 3-day meetings in Montgomery, Ala., La Grande, Oreg., Des Monies, Iowa, Albuquerque, N. Mex., and Poland Spring, Maine.

Delegates were selected on a State level by a committee of Federal, State, and local farm organizations. They represented a cross section of American small-scale farmers: men, women, young and old people, and minorities.

Most of them have one thing in common—an overwhelming desire to remain on the land.

Nestled. . . or crunched. . . between a rock and a hard place are America's small-scale farmers. Farmer-delegates to the Regional Small Farms Conferences said being a small operator seems to exacerbate the difficulties shared by all farmers—low prices, rising production costs, and a lack of information about available farm programs.

Although they don't supply the bulk of our agricultural goods, small-scale farmers far outnumber the large operators. In fact, two-thirds of the Nation's farms have gross sales of less than $20,000 yearly. Realized net farm income for them averages about $2,500 a year, with off-farm income much more than that.

Many small-scale farmers are thus part-timers, and highly dependent on off-farm earnings. But, according to the delegates, no matter how farm income compares with money earned off the farm, the important thing is to continue farming.

Special attention

For this reason, delegates said the Government and the public should take special note of small farms in an attempt to keep them going.

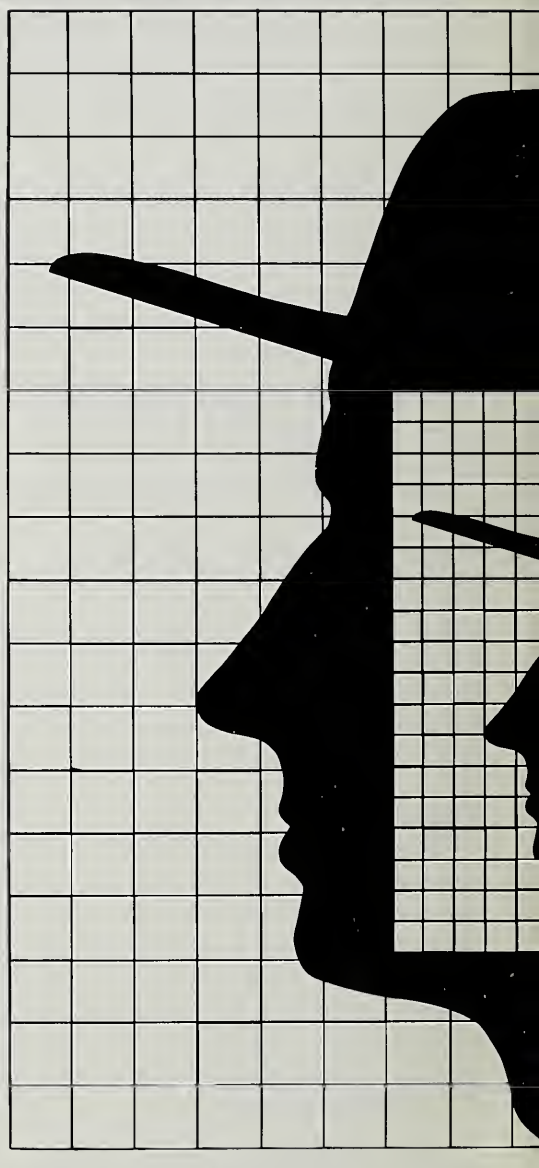
As one farmer said at the Poland Spring conference: "The part-time job is to support the farm. But I make a lot less farming than I do in the factory."

It appears, then, that the lifestyle means as much to small-scale farmers as the money. And as the small operators are quick to point out, when their lifestyle disappears, everyone suffers.

"Small farms have a tremendous impact on the entire social and economic fiber of a coomunity," one work group wrote in its conference report. "Where they (small farms) have disappeared, local businesses also disappear; schools, churches, and other social institutions shrivel. When they flourish, their entire communities also flourish as a direct result."

Income opportunities

Most of the conference reports said, in effect, industry can be good for rural



areas because it provides opportunities for small-scale farmers.

Still, in some areas, industrial expansion can be harmful to small operators. The crunch can come when industry and farmers find themselves in competition for land, and usually industry is willing to pay higher prices for

acreage. Besides land, farmers sometimes must compete with industry for labor.

High land prices not only preclude small-scale farmers from expanding operations, they also put heavy pressure on them to sell what land they have.

Major topics of concern

While there were some differences in concerns from region to region, at least seven major topics were common:

Access to capital and credit. According to the conferees, lending institutions, tax structures, Federal farm programs, and other government—State and Federal—policies favor larger farms, while working against the interests of small ones. Other problems discussed were:

- Young people who want to enter farming have a particularly rough time, mostly because they can't get credit or pay for high-priced land and machinery.
- Government lending programs are often too slow, too complicated, and involve too much paperwork.
- Foreign land investors often outbid the small-scale farmers, jacking up the price of land and effectively closing out the small operators.

Production. The cost-price squeeze, a malady shared by all of agriculture, was highlighted by the delegates:

- Small-scale farmers lack the productive capacity to absorb higher production costs, or to use some of the cost-saving technologies now available.
- Small operators need more training and assistance in management techniques, and information on technologies which would be especially useful to them, such as energy-efficient methods of farming. Government public information programs could help.
- Local USDA agencies need to provide more information on how Government programs apply to small farms.
- State and Federal labor laws make it tough for small-scale farmers to hire seasonal help.

Marketing. Commodity prices were the major marketing concern at all five regional conferences. Sounding much like their large-farm counterparts, the delegates called for Government help to boost prices. Other key points included:

- Small-scale farmers lack "alternative markets." In other words, if commodity prices are too low at one market, the small operators have no other market to turn to for a higher price.
- They don't have adequate on-farm storage that will allow them to hold commodities until prices rise.
- They need training in marketing techniques and help in forming cooperatives.
- They also need help in using the "direct marketing" approach, such as selling goods off the back of a truck or in a farmers' market.
- Small-volume producers are badly hurt because Federal barriers to food imports are often too easy to hurdle. (Delegates mentioned beef imports most frequently.)
- Small-scale farmers have to compete with foreign imports that don't have to meet the same health and safety standards as domestic food.

Land and water. The small operators said high prices were only part of the land problem—they also have to compete with parks and wilderness areas for land. Other problems were also discussed:

- Inheritance laws, even with recent revisions, tend to hamper handing down farmland from generation to generation.
- Weeds on public lands often are

uncontrolled, and neighboring farmers have to fight a continuous battle against the reseeding of weeds that comes from drainage from Government-held acreage.

• Federal laws, such as the Reclamation Act of 1902, that limit the size of some irrigation operations aren't always realistic.

• Some Federal programs, such as cost-sharing for land conservation, discriminate against small-scale farmers.

• Too many irrigation wells in some areas are forcing the ground water table to sink rapidly. The number of wells in some areas should be controlled by law.

• Farmers lack information on what laws are already on the books, and what they can do.

Government regulations and procedures. Probably the sharpest criticisms of Government came during sessions on regulations. One oft-heard allegation was that Federal programs favor consumers over producers, and adherence to a cheap food policy puts the squeeze on farmers. According to the delegates:

• There ought to be more individual contact between Government agents and small-scale farmers, and small operators should have better representation on State and local boards.

• Government agencies should coordinate more closely with each other to avoid program duplication and programs working against each other.

• Some environmental programs are too expensive for small operators.

Farm family living. In this area, small-scale farmers' concerns were often much the same as their urban neighbors'. Family incomes, the delegates said, aren't able to keep pace with living expenses. Specifically:

• Costs for health care and schools are rising too rapidly, while the quality of other public services is slipping.

• The strains on the farm family that come from husbands or wives—or both—holding more than one job are severe.

Alternative sources of income. A wide divergence of opinion on the importance of nonfarm income cropped up, with some farmers saying it's very important, and others contending that higher farm prices would make it unnecessary. There was some consensus, though:

• Research should be started to find job opportunities that would complement, not conflict with, farmwork.

• Surveys of community resources—such as one completed recently in a small town in Massachusetts—can be helpful in figuring out what special skills small-scale farmers have, and how they can be used best off the farm.

• Recreational uses of farmland, and other on-farm income sources, should be more fully explored and publicized.

Energy. Once again, the lack of ready information was criticized. The work groups at the conferences said that many farmers simply aren't aware of their alternatives when it comes to energy. They said:

• Farmers want more information about farm-produced energy, such as gasohol.

• Solor energy applications for the small-scale farmer should be more widely publicized.

• Weatherization techniques for farm buildings should be advanced.

Government action

All five conferences revealed clearly that small-scale farmers are acutely aware that the general economic health of agriculture and small farms is closely linked. Several Government actions—some scheduled before the conferences—are designed to help agriculture generally, and small-scale farmers in particular:

• The Agriculture Credit Act of 1978 was designed to help low-income farmers with low-interest loans, higher loan limits, and greater Government flexibility in adjusting repayment schedules to operators' incomes.

The Farmers Home Administration slated 25 percent of its annual operating funds for the exclusive use of limited-resource farmers.

• Several USDA agencies are examining their policies and procedures to make sure they benefit small-scale farmers.

• The CSA now has a rural development specialist who will concentrate on helping small-scale farmers.

• USDA and ACTION are joining forces to assign volunteer workers to small farm projects throughout the Nation.

• Most States now have small farm task forces to review conference findings and recommend programs at the State level to help small-scale farmers.

• A series of joint pilot projects, sponsored by USDA, CSA, and ACTION, will be underway in 1979. These projects, if successful, will launch a coordinated attack on the special problems facing small-scale farmers.

[Based on special material from David Brewster, National Economic Analysis Division.]

Caribbean Countries: New Suppliers of Winter Vegetables?

Cigars weren't the only Cuban goods the U.S. used to import—fresh winter tomatoes and cucumbers came from there, too.

Now, though, chances are the cukes and tomatoes you ate this winter were grown in Florida and Mexico. Since the 1962 trade embargo with Cuba, these two producers have supplied most of the U.S. fresh winter market.

If trade were renewed with Cuba, or if new supplies were garnered from other Caribbean countries, there would be small, but significant, effects on the American market.

A recent ESCS study suggests that additional supplies of fresh market winter tomatoes and cucumbers would benefit American consumers, while hurting producers in Florida and Mexico.

Trade impact

The impact of new trade on the present suppliers would vary in almost direct proportion to the amount shipped.

Although new Caribbean-area imports probably would be small relative to the total supply—Cuba formerly provided about 10 and 2 percent, respectively, of the present cucumber and tomato markets—the impact could be substantial during certain months.

For example, if Cuba, or other Caribbean countries, resumed exports at pre-embargo levels, tomato and cucumber prices in the U.S. could decline almost 25 and 90 cents per cwt, respectively, during January and February.

Florida, the only U.S. grower that would be affected, could experience about a 5-million-pound decline in tomato output and a 3-million-pound decline in cucumber production.

Mexican effect

However, since Mexico is an exporter to the U.S. during midwinter, they could face much greater production declines if other supplies were forthcoming at that time—as much as 18 million pounds for tomatoes and 24 million for cucumbers.

Because the export patterns of Mexico and a new Caribbean supplier would be so similar—larger during the midwinter months and light at the beginning and end of the season—Mexico would suffer more than Florida from the new competition.

That's not to say, however, that Florida would not be affected. Prices would be lower for both areas, in some cases more so in Florida than in Mexico.

More compatible

But overall, Florida's current production cycle would be more compatible with the anticipated new imports. Although Florida producers ship throughout the season, their most active period occurs before and after the time when Caribbean imports would be expected to arrive.

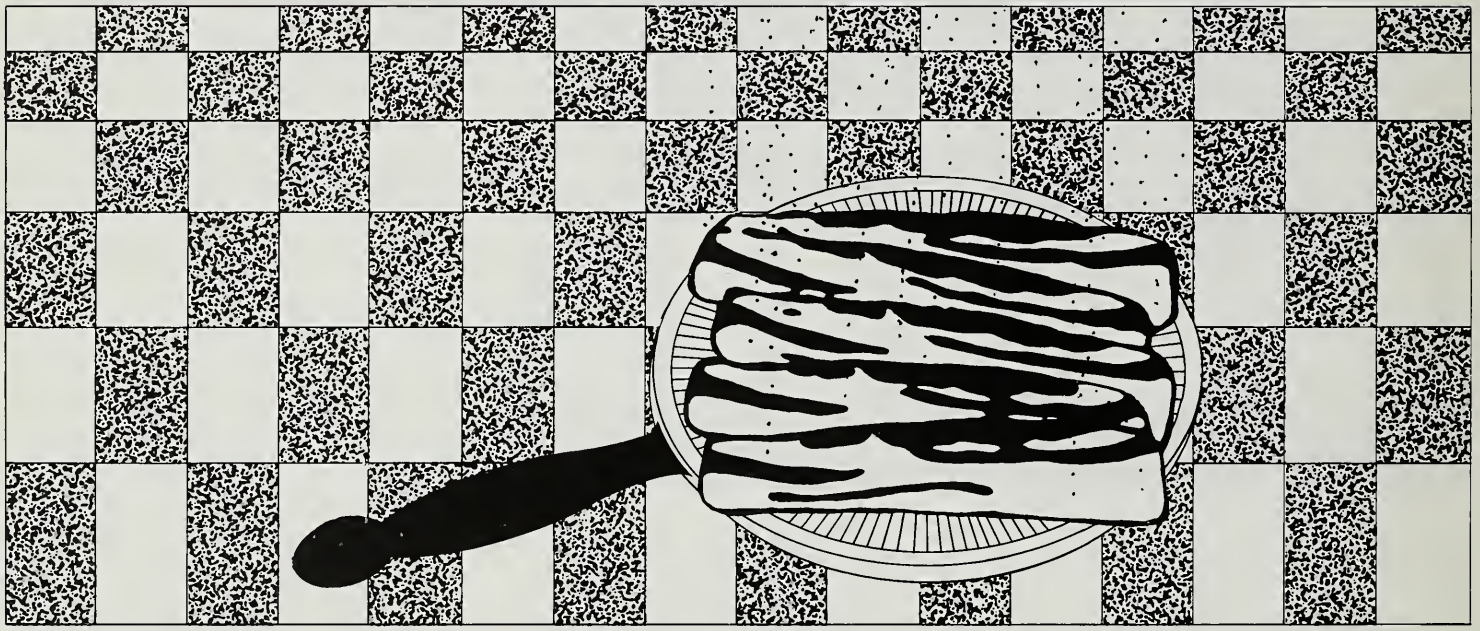
The total season effect of the new supplies would be small—total Florida grower receipts could drop because of declines in both price and volume of sale, by as much as $0.7 million from cucumber sales and $2.4 million from tomato sales.

The resulting consumer price changes from the new supplies would be, on the average, a decline of 10 cents per cwt for tomatoes and 41 cents for cucumbers, with prices fluctuating from month to month during the winter season.

The lower prices would have little effect on the amounts consumers eat. Winter tomato consumption would increase around 5 million pounds—about a forkful per person. Winter cucumber consumption would be up nearly 12 million pounds, or about a slice apiece.

[Based on the manuscript, "Effects of New Caribbean-Area Winter Fresh Tomato and Cucumber Supplies on the U.S. Industry," by Glen A. Zepp, Commodity Economics Division, University of Florida.]

The Nitrite Parallax



In one of those ironies that occur in our technological age, what had long been considered as harmless is now thought of as posing a possible health hazard.

Sodium nitrite is a curing agent that inhibits the growth of micro-organisms which cause botulism—a rare, but frequently fatal, form of food poisoning. The chemical is used in a wide variety of processed products made from pork, beef, poultry, and fish.

In 1976, nitrite was used in processing 6.84 billion pounds of pork and 2.55 billion pounds of beef; in effect, more than half of all pork and a tenth of all beef going through Federal inspection that year.

Approved curing agent

Nitrite has been an approved curing agent since USDA authorized its use during the 1920's. No more than 200 parts per million are allowed in the finished product, be it bacon, sausage, canned hams, luncheon meats, frankfurters, kosher meat, or other items.

Presently, the incidence of food-borne botulism is really low. The Center for Disease Control in the U.S. reports that between 1899 and 1973, there were 688 recorded outbreaks of food-borne botulism involving about 1,800 persons, and causing 978 deaths.

Almost three-quarters of the outbreaks were traced to home-prepared food, about a tenth to commercially processed products, with no source identified for the rest.

Nitrite controversy

Scientific investigations in recent years have raised questions about the real health value of nitrite interaction with amines in bacon, which, together, produce nitrosamines, compounds that are carcinogenic to laboratory animals. Recent research even points to sodium nitrite itself as a possible carcinogen.

So there is the conflict. Leave nitrite in the food system and possibly create a long-term public health problem of major dimensions. Discontinue its use as a meat-curing agent and potentially impose an immediate health threat, alter consumers' eating habits, raise food prices, and lower net farm income.

Second assumption

The second assumption was that use of pork bellies for nitrite-free bacon products would fall to just 15 percent of the total now used.

Under the 50-percent level, liveweight hog prices would decrease initially by 4 percent ($2 per cwt), but improve somewhat over the 5-year span and stabilize about 2 percent below the levels projected with a ban.

However, with less pork going to bacon, larger lard supplies would put

downward pressure on the oilseed prices, possibly dropping soybean prices by 8 cents per bushel.

Although the 630,000 hog operations of 1978 would likely cut production by 3 percent, there would be some offsetting gains to farmers selling other animal products. But bacon's strong association with breakfast would limit substitution for beef and broilers and total meat output might linger at the minus 3 percent mark.

Steer prices, reacting to the market situation, were indicated to rise 40-50 cents per cwt during the 5 years. Broiler prices would move up about one-half cent a pound.

Farm income

A ban imposed in 1976 would have cut $600 million from net farm income, about a 2.5-percent reduction.

Hog farmers would have seen cash receipts fall by about 6.5 percent, $580 million. Corn and soybean producers would have lost about $450 million. Livestock producers would face higher soybean meal prices.

The impact across the board would about double under the assumption that only 15 percent of the pork bellies would go for bacon products.

Led by higher retail pork prices, the Consumer Price Index for food could be expected to advance 0.3 percent under the first assumption and 0.7 percent with the second, both considered negligible.

Other considerations

This study broached only a selected portion of the conflicts that would arise from a ban on nitrite used in bacon—even the timing of such a ban could be significant. If it occurred when red meat supplies were low, beef and poultry price increases would be more precipitous and lengthy. Unmeasured is the personal reaction of hog producers. Would they simply begin a herd liquidation action.

Analysts considered only the direct implications for production, price, and consumption. No evaluation was developed for higher health costs or the benefits to society from a lower incidence of cancer.

USDA's role and dilemma

USDA is the primary agency responsible for the safety and wholesomeness of meat and poultry products, which are subject to the Federal meat and poultry inspection system. USDA and the Food and Drug Administration (FDA) control the chemicals and drugs that may be used in the food production process as authorized, in part, by the Federal Food, Drug, and Cosmetic Act.

Much of the dilemma for USDA policymakers concerns if, when, and how to remove nitrite from use.

Since nitrite is at once a health attribute and potential health hazard, there is reluctance to arbitrarily remove it from the market. The issue is whether or not it must be banned immediately or could be phased out as other sources of protection from botulism are developed and implemented. USDA and FDA have asked the Justice Department to review the situation and offer an interpretation.

Restriction impact

USDA has already imposed some regulatory actions restricting nitrite use in the bacon-curing process, and other limitations are under consideration.

An estimated 13 percent of all pork produced in 1976 ended up as cured bacon. Banning nitrite in curing bacon would force alternate uses of pork bellies. While some nitrite-free bacon would be sold, a ban on nitrite-cured bacon would mean that fewer pounds of pork meat would be sold from each hog carcass. Part of the bellies would be diverted to the animal fat or lard market.

Such a ban would likely generate pressure for some economic adjustments in the agricultural sector and food system.

Food prices

Food prices could move upward in reaction to somewhat higher costs of pork processing and lower pork sales. Increased consumer demand for alternate meats could also put upward pressure on food prices.

Net farm income could slacken in line with lower cash receipts from hogs and such crops as feed corn and soybeans.

Analysts with ESCS developed a model to help measure the economic impact over a 5-year period of a ban on nitrite use in bacon. They made two different assumptions about the consumption of nitrite-free bacon.

The first is that only half of the pork bellies now used for bacon would still go for similar but nitritedfree products, while the rest would go into sausage, other meat products, and lard.

[Based on *Nitrite in Bacon,* December 1978, ESCS-44, and the manuscript, "An Analysis of a Ban on Nitrite Use in Curing Bacon," November 1978.]

Transportation Tieup

Having perhaps the best agricultural system in the world means little if we don't have the transportation needed to get our goods to market.

During the past year, the U.S. has been faced with the worst railroad-car shortage in 2 decades; shortages of jumbo-covered hoppers and boxcars numbered in the tens of thousands.

Last April, Secretary Bob Bergland ordered an all-out effort within USDA to assist in easing the railcar shortage—a situation which had greatly hampered grain, fertilizer, and cotton shippers.

The Department is working with the Interstate Commerce Commission (ICC) in analyzing export sales reports, crop production reports, estimated commercial fertilizer demand, and other information to improve the utilization of available railcars and determine future needs.

Shippers' "hot line"

A "hot line" was established at USDA for shippers to contact the Department about specific problems, or alert it to serious shortage situations.

The Department is also working closely with trade associations and shipper groups to coordinate the activities and the flow of information—an effort to facilitate quick and effective action on the shortage problems.

However, despite these actions, the Department is not optimistic that the railcar shortage will ease substantially in the near future.

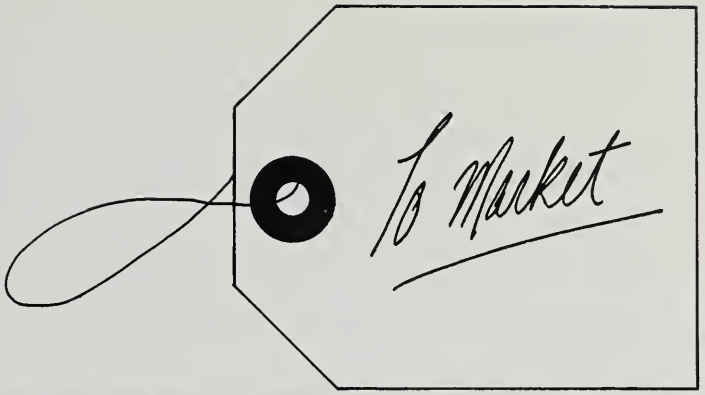
For example, the shortage of grain cars may extend well into the 1979 crop year. The reason: Transportation capacity is not expected to increase rapidly enough to meet the consistently high levels of demand.

Production and demand

Grain production for 1978/79 may increase 3.4 million tons from the previous year's record. Domestic demand for grain is projected to remain stable this year, while exports are forecast to increase slightly from recent high levels.

Since most of the rail-hauled grain moves in covered hopper cars, any long-range improvement in car supply will have to involve either increased numbers or utilization of this type car.

The general consensus, however, is that the utilization of covered hoppers—which replaced boxcars as the prime movers of grain—is slipping. For instance, in 1972, all covered hoppers averaged about 18 trips per year; by 1977, the average had dropped to 15. (Average trips per year is only one measure of utilization, and a decline



does not conclusively demonstrate reduced efficiency.)

Fertilizer industry

The railcar shortage is also taking its toll on the fertilizer industry. About half of all fertilizer sales occur between March and May—the same period when grain exports are often heavy, placing a strong demand on rail transportation.

Covered hopper shortages averaged over 30,000 cars per day during the March-May period last year. And it looks like the same story for 1979. Conequently, farmers may not have as much fertilizer available as they would like for spring planting, unless they have provided on-farm storage in anticipation of their needs.

Fertilizer usage is projected at 45.4 million metric tons for 1978/79—up about 1 million metric tons from the previous year.

Boxcar shortage

The cotton industry can't get enough of the 40-foot, narrow-door boxcars, which it prefers. Since 1972, there has been a net decline of over 100,000 of these boxcars.

One of the problems is that a large number of cars need repairs. According to ICC estimates, about 10 percent of the railroad-owned fleet of 40-foot boxcars are unserviceable.

In some instances, it doesn't pay to repair them. However, if a portion of those cars were serviceable, they would help the cotton industry, as well as provide a significant standby capacity for peak-load shipments of grain.

USDA has recommended that the ICC take a close look at any railroad which permits its bad-order ratio to exceed 5 percent; it now has this matter under investigation.

Less severe effects

Although the railcar shortage has played havoc with the grain, fertilizer. and cotton industries, the effects have not been as severe in segments of the agricultural economy that rely less heavily on rail transportation, such as fresh fruits and vegetables and fresh meats.

The railroads' share of fresh fruit and vegetable shipments dropped from 24 percent in 1973 to 11 percent in 1977. This year, a decline to 8 percent is expected, with trucks carrying the other 92 percent.

The shift from rail to truck for this commodity group has occurred for several reasons. First, the railroads have not maintained an adequate fleet of refrigerator cars; available cars dropped almost in half between 1973 and 1978.

Second, the quality of service has been deteriorating; and, third, rail rates have been on the rise.

Total tonnage

Total tonnage of fresh fruits and vegetables transported by all methods in 1979 will be slightly above last year's level, continuing the gradual increase of the past 5 years.

It now appears that more than adequate rail-refrigerated equipment will be available this year, although spot shortages may happen during heavy harvesting when trucks are in short supply.

Based on last year's experience, no serious refrigerated truck shortages are expected, except during peak harvest times, or in the event of a truck strike.

To add to the good news, the total transportation fleet for moving these commodities may be increased if shippers continue the 1978 trend of buying or leasing refrigerated rail piggyback trailers to move their perishables to market.

Fresh meat shipments

But the news is less encouraging for transporting fresh meat. This product is now moved almost exclusively by regulated, for-hire carriers and the shortage of available trucks is causing severe headaches for the meat industry.

At the urging of some midwestern meatpackers, and because of a heavier than normal request for temporary emergency authority, the ICC has issued General Temporary Order No. 14. It allows a more flexible and expeditious system for handling emergency applications for the transportation of meat by truck.

This order will help for-hire carriers who don't have the authority to transport fresh meat. Eventually, the packer will be helped.

Temporary solution

Of course, such a measure is only a temporary solution. As long as meat transported by truck is regulated, the problem will remain until sufficient operating authority is granted to meet the requirement.

Clearly, agriculture's demand for transportation will be strong this year; in 1985, it will be even stronger. More railcars, barges, and trucks—along

with improved efficiency—will be required to meet the increasing domestic and foreign demands on agriculture.

Total movement of most major farm commodities is projected to increase except for cotton, peanuts, and sugar, which are expected to decline slightly.

Grains (including soybeans), the biggest consumers of agricultural transportation, will likely create the greatest increased demand—about 66 million metric tons more than the 1973-74 average.

Big users

Most of the added demand will come from feed grains, with a projected expansion of 39 million metric tons, followed by soybeans and food grains at 15 and 12 million metric tons, respectively.

Other heavy users of transportation in 1985 will be fresh fruits and vegetables, each up more than 7 million metric tons from the 1973-74 average, indicating a greater need for more refrigerated railcars and trucks.

Refrigerated trucks will also be in great demand to move milk, poultry, eggs, and meats, which could have a combined increase of about 10 million metric tons.

Movement of agricultural exports for all major commodities are expected to total about 117 million metric tons by 1985, a 32-million metric ton increase over the 1973-74 average. Grains (including soybeans) will likely account for the bulk of this total—as much as 109 million metric tons.

[Based on the speech, "Transportation Outlook, 1979 and Beyond," presented by Barbara L. Schlei, Administrator, Agricultural Maketing Service, at the National Food and Agricultural Outlook Conference, Nov. 14, 1978, Washington, D.C.]

Government Regulations

Agriculture needs more transportation than ever before. And with demand expected to increase, the Government is taking a close look at some of the regulations affecting the transportation industry.

Historically, USDA has been a staunch defender of regulatory control over the railroads, particularly for those agricultural sectors that are heavy users.

However, realizing the plight of many railroads today, the Department is supporting—in principle—an experiment to partially deregulate fresh fruit and vegetable rail traffic. As yet, no specific proposals are under consideration by the Interstate Commerce Commission (ICC).

In the next few years, regulations affecting the railroads should be relaxed considerably, as the industry, the ICC, and the public adjust to new statutory changes, such as those brought about by the Railroad Revitalization and Regulatory Reform Act.

As for truck regulations, the ICC controls the movement of manufactured agricultural products—meat, frozen fruits and vegetables, canned goods, etc.

All unmanufactured items, such as perishables, are free of Federal regulation and can be shipped on any motor vehicle (private, regulated, or nonregulated) as long as nonexempt commodities are not aboard at the same time.

Thus, agriculture has had substantial experience with for-hire transportation, free of economic regulation, where prices and services were set by market forces.

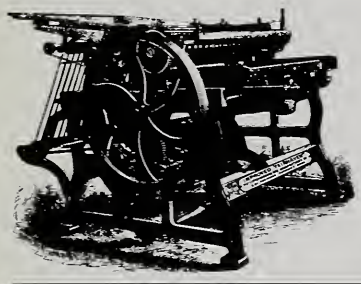
And it has worked quite well. In fact, studies have shown that such unregulated trucking provides efficient and adequate service at reasonable rates.

Agriculture's experience with unregulated trucking will be given careful consideration in developing needed reforms.

Three reforms favored by USDA include:

- Deregulation of all return trips which follow unregulated original hauls. This would enable truckers to make round trips completely free of regulation, creating for the first time since 1935 a truly exempt sector of the trucking industry.
- Expansion of the current ICC exemption to include farm input items and all processed foods.
- Increase the 15-percent restriction on cooperative trucking for nonfarm, nonmember business to 50 percent; eliminate the restriction that such business be incidental to the cooperative's primary transportation operation and necessary for its effective performance.

Recent Publications



Single copies of the publications listed here are available free from *Farm Index*, Economics, Statistics, and Cooperatives Service, Rm. 482 GHI, 500 12th St., SW, U.S. Dept. of Agriculture, Washington, D.C. 20250. However, publications indicated by (*) may be obtained only by writing to the experiment station or university indicated. For addresses, see July and December issues of *Farm Index*. Publications marked with (#) may be purchased from NTIS, U.S. Dept. of Commerce, 5285 Port Royal Rd., Springfield, Va. 22161, at the price listed.

Household Food Consumption Patterns in the United States. Larry E. Salathe and Rueben C. Buse, National Economic Analysis Division. TB-1587.

Food price and consumption forecasting models can be improved by including demographic and socioeconomic factors of the population. Analyzing each characteristic separately reveals that households in the Northeast spend the most on food, while their counterparts in the South spend the least. Rural nonfarm households also spend less on food than their counterparts in either an urban or rural farm locality.

Structural Characteristics of the U.S. Hog Production Industry. Roy N. Van Arsdall, Commodity Economics Division. AER-415.

Hog production accounts for about a third of U.S. red meat production and generates a sixth of the cash receipts from the sale of all livestock and livestock products. This report determines the relative importance of representative hog enterprises by region, type of hogs produced, size of enterprise, and system of production.

Midsize Farm Supply Cooperatives, Characteristics and Growth Strategy. John M. Foschia, Cooperative Marketing and Purchasing Division. FCS Research Report 45.

This study analyzes medium-size local farm supply cooperatives to determine problem areas facing these firms. Also, how the stores overcome or meet the problems is looked at, with an eye to how these experiences can help small supply cooperatives.

A Simulation of Irrigation Systems: The Effect of Water Supply and Operating Rules on Production and Income on Irrigated Farms. Raymond L. Anderson, Natural Resource Economics Division, and Arthur Maass, Harvard University. Tech. Bul.-1431.

This report, published in cooperation with the John Fitzgerald Kennedy School of Government, Harvard University, describes and illustrates the use of a digital computer model of irrigation systems. Effects of several common variables on crop production and farm income are examined.

The U.S. Wine Market. Raymond J. Folwell, Washington State University, and John L. Baritelle, Commodity Economics Division. AER-417.

Who buys wine in the U.S. and why? This report asked a survey panel of about 7,000 households, who reported their monthly wine purchases from February 1975 through January 1976. Wine products considered were varietal table, nonvarietal table, dessert, sparkling, and flavored wines, as well as vermouth and brandy. The report also investigates the market structure of the U.S. industry.

Sugar Beet Production Costs in the United States—1976/77. Frederic L. Hoff, Commodity Economics Division. PB 282 178. #

Based on data collected from 884 sugar beet producers in eight U.S. production regions, this report states that the total cost of producing the 1976/77 sugar beet crop averaged $24.33 per ton and $472 per acre. Production costs per acre were highest in intensively irrigated areas, such as California and Arizona. ($4)

Building and Fencing Materials: Prices, Margins, and Marketing Practices. Leland Southard, National Economic Analysis Division. PB 284 083. #

Farmers spent $5.3 billion for building and fencing materials in 1976. A survey of invoice and retail prices indicates that the product margin (the difference between the two prices) charged by dealers averaged 24 percent of the retail price. Relative margins were found to conform reasonably well to demand theory. ($4)

Open Space Preservation: Federal Tax Policies Encouraging Donation of Conservation Easements. Arthur B. Daugherty, Natural Resource Economics Division. PB 284 960. #

Donation of conservation easements is one way to achieve open space objectives for land. As an incentive for easement donation, tax reductions are available to the easement donor. One of the major tax incentives is deduction of the value of the easement as a charitable contribution on the donor's personal Federal income tax return. Additional tax reductions may occur annually and/or on disposition of the property. ($4.50)

Normalized Prices for Resource Planning: A Comparison of Alternatives. Robert D. Niehaus, Natural Resource Economics Division. PB 289 190. #

This report examines the characteristics of normalized prices issued periodically by the U.S. Water Resources Council. It also evaluates several alternative procedures—trend analysis, weighted average techniques, and a structural approach—for calculating normalized prices. These techniques should be of particular interest to analysts and planners in public agencies of all levels of government. ($4.50)

Land Application of Wastewater: A Cost Analysis. C. Edwin Young, Natural Resource Economics Division. Tech. Bul-1594.

This report asserts that land application of wastewater is a cost-effective method for advanced wastewater treatment. Land applications are less expensive, says the author, than conventional treatment methods for the relatively small treatment plants. The greatest influence on costs is the selection of crops that the wastewater will be applied to.

Marketing Order Program Alternatives: Use and Importance in California, 1949-75. Ben C. French, Niniv Tamimi, and Carol Frank Nuckton, University of California at Davis. Bulletin 1890.*

This report attempts to fill in the information gap about California marketing order programs for fruits and vegetables. The gap comes because most studies and reports describe programs, without assessing their effects.

Economic Trends

[1]Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. [2]Beginning January 1978 for all urban consumers. [3]Revised to adapt to weighting structure and retail price indexes for domestically produced farm foods from the new Consumer Price Index for all urban consumers (CPI-U) published by the Bureau of Labor Statistics. [4]Annual and quarterly data are on a 50-State basis. [5]Annual rates seasonally adjusted fourth quarter. [6]Seasonally adjusted. [7]As of March 1, 1967. [8]As of February 1. [9]As of November 1.

Source: USDA (Agricultural Prices, Foreign Agricultural Trade, and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report, and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force, Wholesale Price Index, and Consumer Price Index).

Item	Unit or Base Period	1967	1977 Year	1977 Dec.	1978 Oct.	1978 Nov.	1978 Dec.
Prices:							
Prices received by farmers	1967=100	—	183	181	217	215	221
Crops	1967=100	—	192	183	200	200	203
Livestock and products	1967=100	—	175	180	232	228	237
Prices paid, interest, taxes, and wage rates	1967=100	—	202	203	224	224	226
Prices paid (living and production)	1967=100	—	196	198	218	219	221
Production items	1967=100	—	200	199	222	223	225
Ratio	1967=100	—	90	89	97	96	98
Producer prices, all commodities	1967=100	—	194.2	198.2	215.0	215.7	217.4
Industrial commodities	1967=100	—	195.1	200.0	214.7	216.0	217.0
Farm products	1967=100	—	192.5	188.3	220.7	219.2	222.4
Processed foods and feeds	1967=100	—	186.1	189.3	209.0	208.1	211.9
Consumer price index, all items[2]	1967=100	—	181.5	186.1	200.9	202.0	202.9
Food[2]	1967=100	—	192.2	196.3	216.8	217.8	219.4
Farm Food Market Basket:[3]							
Retail cost	1967=100	—	179.2	181.8	205.1	205.9	207.6
Farm value	1967=100	—	178.1	179.6	213.9	209.1	218.5
Farm-retail spread	1967=100	—	180.0	183.2	199.8	203.9	201.0
Farmers' share of retail cost	Percent	—	37.5	37.3	39.4	38.4	39.7
Farm Income:[4]							
Volume of farm marketings	1967=100	—	125	139	172	—	—
Cash receipts from farm marketings	Million dollars	—	96,084	8,870	12,846	—	—
Crops	Million dollars	—	48,519	4,829	7,196	—	—
Livestock and products	Million dollars	—	47,565	4,041	5,650	—	—
Gross income[5]	Billion dollars	49.9	108.1	114.8	—	—	133.0
Farm production expenses[5]	Billion dollars	38.2	88.0	91.4	—	—	101.3
Net income before inventory adjustment[5]	Billion dollars	11.7	20.1	23.4	—	—	31.7
Agricultural Trade:							
Agricultural exports	Million dollars	6,380	23,671	2,324	2,665	2,806	—
Agricultural imports	Million dollars	4,452	13,459	1,283	1,229	1,282	—
Land Values:							
Average value per acre	Dollars	[7]168	[8]450	[9]471	[8]470	528	—
Total value of farm real estate	Billion dollars	[7]189	[8]482	—	[8]524	—	—
Gross National Product:[5]	Billion dollars	796.3	1,887.2	1,958.1	—	—	2,210.8
Consumption	Billion dollars	490.4	1,206.5	1,255.2	—	—	1,402.2
Investment	Billion dollars	120.8	297.8	313.5	—	—	359.9
Government expenditures	Billion dollars	180.2	394.0	412.5	—	—	−455.6
Net exports	Billion dollars	4.9	−11.1	−11.8	—	—	−6.9
Income and Spending:[6]							
Personal income, annual rate	Billion dollars	626.6	1,529.0	1,609.2	1,768.4	1,785.9	1,804.8
Total retail sales, monthly rate	Billion dollars	24.4	59.0	61.8	67.4	68.2	68.9
Retail sales of food group, monthly rate	Billion dollars	5.8	13.0	13.4	14.7	14.9	14.8
Employment and Wages:[6]							
Total civilian employment	Millions	74.4	90.5	92.6	95.2	95.8	95.9
Agricultural	Millions	3.8	3.2	3.3	3.4	3.3	3.4
Rate of unemployment	Percent	3.8	7.0	6.4	5.8	5.8	5.9
Workweek in manufacturing	Hours	40.6	40.3	40.5	40.5	40.7	40.6
Hourly earnings in manufacturing, unadjusted	Dollars	2.83	5.67	5.92	6.32	6.37	6.45
Industrial Production:[6]	1967=100	—	137.1	139.7	148.6	149.5	150.4
Manufacturers' Shipments and Inventories:[6]							
Total shipments, monthly rate	Million dollars	46,487	111,256	117,938	130,614	132,459	—
Total inventories, book value end of month	Million dollars	84,527	179,714	179,714	194,735	196,525	—
Total new orders, monthly rate	Million dollars	47,062	112,842	122,128	137,162	137,520	—

United States Government Printing Office
Division of Public Documents, Washington, D. C. 20402
Official Business / Penalty for Private Use $300

To stop mailing ☐ or to change your address ▫ send this sheet with new address to *Farm Index*, ESCS, U.S. Dept. of Agriculture, Rm. 482 GHI, 500 12th St., SW, Wash., D.C. 20250.

POSTAGE
& FEES PAID
U. S. DEPT.
OF
AGRICULTURE
AGR 101

THIRD CLASS